

Listing of Claims:

Claims 1-11⁹⁾ (Cancelled)

Claim 12 (currently amended) A pharmaceutical composition, comprising a starch granule containing at least one fusion polypeptide ~~of Claim 8~~ containing

- in the N-terminal position, a starch synthase, or a protein derived from this enzyme, especially by suppression, addition or substitution of one or more amino acids, the said starch synthase or derived protein having the property of migrating to the sites of biosynthesis of the starch granules in plant cells and of attaching to the starch granules
- and, in the C-terminal position, a peptide or polypeptide of interest
- the C-terminal part of the amino acid sequence of the starch synthase, or of the derived protein, thus being bound to the N-terminal part of the peptide sequence of interest, the said fusion polypeptide being encoded by a recombinant nucleotide sequence containing, in the 5'→3' direction, a nucleotide sequence coding for an adenosine diphosphate glucose α -1,4-glucan α -4-glucosyltransferase or starch synthase EC 2.4.1.21, or for a protein derived from this enzyme, by suppression, addition or substitution of at least one amino acids, the said enzyme or derived protein having the property of migrating to the sites of biosynthesis of the starch granules in plant cells and of attaching to the starch granules, the said nucleotide sequence coding for the enzyme or aforementioned protein being positioned upstream of a nucleotide sequence coding for a peptide or polypeptide of interest and a physiologically acceptable vehicle, the peptide of interest in the said fusion polypeptides possessing a defined therapeutic effect.

Claim 13 (previously amended) A pharmaceutical composition of Claim 12, wherein the diameter of the starch granules is between about 0.1 μm and several tens of μm , and the proportion by weight of the fusion polypeptides in these granules is between about 0.1% and 1%.

Claim 14 (currently amended) A pharmaceutical composition, containing at least one fusion polypeptides of ~~Claim 8~~ containing

- in the N-terminal position, a starch synthase, or a protein derived from this enzyme, especially by suppression, addition or substitution of one or more amino acids, the said starch synthase or derived protein having the property of migrating to the sites of biosynthesis of the starch granules in plant cells and of attaching to the starch granules

- and, in the C-terminal position, a peptide or polypeptide of interest

- the C-terminal part of the amino acid sequence of the starch synthase, or of the derived protein, thus being bound to the N-terminal part of the peptide sequence of interest, the said fusion polypeptide being encoded by a recombinant nucleotide sequence containing, in the 5'→3' direction, a nucleotide sequence coding for an adenosine diphosphate glucose α -1,4-glucan α -4-glucosyltransferase or starch synthase EC 2.4.1.21, or for a protein derived from this enzyme, by suppression, addition or substitution of at least one amino acids, the said enzyme or derived protein having the property of migrating to the sites of biosynthesis of the starch granules in plant cells and of attaching to the starch granules, the said nucleotide sequence coding for the enzyme or aforementioned protein being positioned upstream of a nucleotide sequence coding for a

peptide or polypeptide of interest and a physiologically acceptable vehicle, the peptide of interest in the said fusion polypeptide possessing a defined therapeutic effect.

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Claims 15-19 (cancelled)
